

CLAIMS

1 1. A filter module for a transaction processing system
2 in which a transaction manager is responsive to
3 transaction requests from one or more applications and a
4 service provider layer is adapted to relay transaction
5 requests passed from said transaction manager to
6 associated hardware for execution; said filter module
7 being adapted to intercept transaction requests from said
8 transaction manager to said service provider layer and to
9 process said requests, said filter module being further
10 adapted to intercept transaction responses from said
11 service provider layer to said transaction manager and
12 the or each application and to process said responses.

1 2. A transaction processing system including:
2 a transaction manager running in a first process and
3 responsive to transaction requests from one or more
4 applications;

5 a service provider layer including a set of service
6 provider modules, each service provider module being
7 adapted to relay transaction requests passed from said
8 transaction manager to an associated hardware module and
9 to relay transaction responses from said hardware module
10 to said transaction manager or the or each application;
11 and

12 one or more filter modules adapted to intercept
13 transaction requests from said transaction manager to
14 said service provider layer and to process said requests,
15 the or each filter module being further adapted to
16 intercept transaction responses from said service

17 provider layer to said transaction manager and the or
18 each application and to process said responses.

1 *Sub A3* 3. A transaction processing system according to claim 2
2 in which the or each filter module is adapted to process
3 said requests and said responses by recording at least
4 some of said requests and responses in a log.

1 4. A transaction processing system according to claim 2
2 in which the or each filter module, said transaction
3 manager and the or each application has an associated
4 identifier and wherein the or each application is adapted
5 to include the identifier of the application or the
6 transaction manager to which transaction responses are to
7 be relayed by the service provider layer in a transaction
8 request, the or each filter module being adapted to
9 replace said identifier in at least some transaction
10 requests with the identifier of the filter module so that
11 responses to said requests from said service provider
12 layer are relayed to said filter module.

1 *3* 5. A transaction processing system according to claim 4
2 including:

3 a set of stub modules adapted to run in the same
4 process as the transaction manager, each stub module
5 being adapted to relay transaction request data passed
6 from said transaction manager across a process boundary;

7 a server adapted to run in a second process, said
8 server being adapted to receive requests from said set of
9 stub modules across the process boundary and to queue
10 said requests for execution by said set of service
11 provider modules;

each service provider module corresponding to a stub module and being responsive to said queued requests to convert said queued requests to respective hardware specific calls for a device associated with each service provider module.

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1. A transaction processing system as claimed in claim 3 wherein said transaction processing system is implemented on a Windows NT operating system, said operating system including a Windows registry, wherein said stub modules are implemented as stub dynamic link libraries which are adapted to be registered in the registry and wherein said transaction manager is adapted to call said stub DLLs by using information obtained by a lookup process performed on the Windows registry.

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4. A transaction processing system as claimed in claim 3 in which ^{the at least one} ~~the or each~~ filter module is adapted to intercept transaction requests to a stub module by replacing the stub module entry in the registry with an entry corresponding to the filter module, ^{the at least one} ~~the or each~~ filter module being adapted to store the registration of the stub module so that once the filter has processed the request, the request is relayed to the stub module.

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5. A transaction processing system as claimed in claim 4 wherein said transaction manager is a Windows Open System Architecture (WOSA) manager, said transaction requests are WOSA calls and said manager is adapted to relay said WOSA calls to said server via said stub modules, said server being adapted to convert said WOSA calls into constituent components, each component

8 corresponding to a low level generic hardware function
9 call.

1 9. A transaction processing system as claimed in claim
2 2 wherein one of said applications is a web browser
3 adapted to run a web application, the web application
4 including one or more web pages. *a*

1 10. A transaction processing system as claimed in claim
2 2 wherein said transaction processing system cooperates
3 with a registry, wherein said service provider are
4 adapted to be registered in the registry and wherein said
5 transaction manager is adapted to call said service
6 provider modules by using information obtained by a
7 lookup process performed on the registry.

1 *9* 11. ~~8~~ A transaction processing system as claimed in claim
2 *a* ~~10~~ in which the ~~or each~~ ^{at least one} filter module is adapted to
3 intercept transaction requests to a service provider
4 module by replacing the service provider module entry in
5 the registry with an entry corresponding to the filter
6 *a* module, the ~~or each~~ ^{at least one} filter module being adapted to store
7 the registration of the service provider module so that
8 once the filter has processed the request, the request is
9 relayed to the service provider module.

1 12. An Automatic Teller Machine including the
2 transaction processing system as claimed in claim 2
3 comprising:

- 4 a. a processor connected to
- 5 b. a memory,
- 6 c. a screen display, *a*